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Status of *Cyanocitta stelleri carbonacea* Grinnell.

BY WALTER K. FISHER.

THIS subspecies was described by Joseph Grinnell<sup>1</sup> from the Santa Cruz Mts., Santa Clara Co., California, and was subsequently rejected by the A. O. U. Committee on Nomenclature<sup>2</sup>.

Through the kindness of Mr. Robert Ridgway and Dr. C. Hart Merriam I have had the opportunity of examining all the material in the National Museum collection, and in that of the Biological Survey, including the types of *Cyanocitta stelleri annectens*, *Cyanocitta stelleri carlottæ*, and *Cyanocitta stelleri frontalis*. Added to this is a small but pertinent collection forwarded by Mr. Grinnell, and a specimen from Mt. Shasta kindly loaned by Mr. John H. Sage. Especially valuable is a series of eleven birds from Vancouver Island, from the following localities: Victoria 2, Cadboro Bay 2, Goldstream 3, Departure Bay 1, Comox 3.

*Corvus stelleri* was described by Gmelin in *Systema Naturæ* I, 1788, the type locality being clearly stated as Nootka Sound, Vancouver Id., B. C. ("in sinu Natka Americae borealis." l. c. p. 370.). Mr. Grinnell in lieu of specimens from

SIMILARITY OF  ALASKAN AND VAN-  COUVER ID. BIRDS.	Vancouver Id., took Sitka birds for comparison. Nootka Sound is situated in n. lat. 49° 30' on the west coast of the island, considerably north of the middle, not "near the southern end" as Mr. Grinnell states. The series of birds from Vancouver Id. is really intermediate, as one would expect, between the Sitka birds, which are as dark as any from Alaska, and the Oregon-California series ( <i>carbonacea</i> ).
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The Vancouver Id. birds are however so close to the Sitka form that the two are practically the same. The slight difference is seen only when a *series* of the one is compared closely with the other. The two agree substantially in: shade of back, peculiar blue of underparts, amount of black on breast, and size. One specimen from Victoria in the extreme southern end of the island is aberrant in the shade of the underparts and the extent of black thereon, in which it approaches *carbonacea*. The difference seems to be purely individual.

DIFFERENCE BE-  TWEEN BIRDS FROM  CALIFORNIA AND  OREGON AND THOSE  FROM VANCOUVER ID.	On the other hand the birds from the coast of California, and from western Oregon are at once separable from those of Vancouver, Id., both individually and 'en masse.' In the Alaskan and Vancouver Island birds the black of the head extends caudad over the breast, while in the series from California and Oregon this same marking as a rule does not go beyond the jugulum. In the northern bird the black encroaches more onto the sides. The black of the throat and breast of <i>stelleri</i> merges gradually into the blue of the abdomen and suffuses this blue with a light wash, so as to make it relatively much darker than in <i>carbonacea</i> , and more toward a dull Antwerp-verditer blue <sup>3</sup> . In <i>carbonacea</i> however, the back, throat, and jugulum, instead of being a warm black, are usually more of a brownish slate, and the transition into the blue of the lower breast and abdomen is rather abrupt. This blue is distinctly lighter than that of <i>stelleri</i> , and has little or <i>none</i> of the dilution with gray from the jugulum. It is nearer the shade of blue of <i>frontalis</i> tho more intense, namely cerulean blue with a large proportion of Antwerp in its makeup. Occasionally a <i>carbonacea</i> will 'individually' tend
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<sup>1</sup>CONDOR II, Nov., 1900, 127.

<sup>2</sup>Auk XVIII, July 1901, 312. "Not considered worthy of recognition by name.

<sup>3</sup>To get the *general* shade it is necessary to observe the bird at arm's length or even at a greater distance. See Ridgway's Nomenclature of Colors, pl. IX.

toward *stelleri*, and in the same way we find a bird from Victoria tending toward *carbonacea*.

In view of the excellent material at hand, and as it will probably be some time before a series of specimens can be procured from the out-of-the-way type locality, I have thought it advisable to append a description of a bird from Comox, which is on the east side of Vancouver Id. in the same latitude as Nootka Sound.

***Cyanocitta stelleri stelleri*. (Gmelin) Steller Jay.**

*Type of Diagnosis*, ♂ ad., Coll. U. S. Nat. Mus. 151575; Comox, Vancouver Id., B. C., June 1, 1895; collected by F. W. True and D. W. Prentiss; orig. No. 18.

Back, scapulars, about half lesser wing coverts, and head *warm* slate black; crest black, forehead on each side very slightly streaked with blue; the feathers of throat with mesial parts light mouse gray so as to give throat a lighter shade. Abdomen, sides, flanks, under and upper tail coverts, dull Antwerp-verditer blue, darker on chest. Tertiaries and dorsum of tail Berlin blue, barred with black. Wing 147 mm., tail 134, exposed culmen 32, bill from nostril 24, tarsus 48. This bird is essentially like the Sitka examples.

The Steller jay and its races are confined to the wooded districts of the Canadian and Transition zones of the west. They are preeminently birds of the coniferous forests, and are rarely found out of them, except during their short winter rambles. So far as

**DISTRIBUTION.** known the bird does not migrate any great distance, but simply comes down from the inclement regions of the mountains, during the midwinter months, in search of food. *Cyanocitta stelleri stelleri* is characteristic of the Canadian Sitkan District, entering the rather boreal Humid Transition on the shores of Vancouver Id. and adjacent regions of Washington. *Cyanocitta stelleri carlottae* is confined to the Queen Charlotte Is., which resemble the mainland coast. *Cyanocitta stelleri carbonacea* is typically a bird of the Pacific Coast Transition Faunal Area (Humid Transition) south of the Columbia R., ranging into the dilute Canadian of the coast of northern California and Oregon, and to a limited extent into the Arid Transition and Canadian. *Cyanocitta stelleri frontalis* is characteristic of the greater part of the forested Arid Transition and Canadian of California.

Most of the birds from western Washington are intermediate between *carbonacea* and *stelleri* but close to *stelleri*. In fact it is difficult to find two birds just alike from Washington. Specimens from eastern Washington are *annectens*. Near the central portion of the state it is *probable* one would find a mixture of *stelleri*, *annectens* and *carbonacea*. The only speci-

**AREAS OF**

**INTERGRADATION.**

men I have seen from just east of the Cascades (Goldendale) is unfortunately young and not diagnostic. A bird from Ft. Simpson, B. C. (on the coast) has strong *annectens* characters; one from Sumas, B. C. (near the Washington boundary) is typical *annectens*, whereas a specimen (probably a migrant) from Clinton, B. C. (in the interior) is *stelleri*. In the coast region of San Luis Obispo and Santa Barbara counties, California, *carbonacea* intergrades with a small form of *frontalis* which ranges over the mountains of northern Lower California, and of Southern California south of the Tehachapi. In suitable localities in Santa Barbara, San Luis Obispo, and Monterey counties, intergradation doubtless occurs toward the interior with typical *frontalis*, which ranges westward through the Tehachapi Mts. In Northern California intergradation undoubtedly occurs (from indications of specimens at hand) in the inner coast ranges (western Lake, eastern Mendocino counties, Yallo Bally, Bully Choop Mts., and 'Shasta Mts.'), and in the mountains of northern Shasta, eastern Siskiyou, and Modoc counties. The Mt. Shasta jay is intermediate but close to *carbonacea*. The bird from Ft. Crook in the northeast corner of Shasta Co. is rather nearer *fron-*

*talis*. In the more arid Lassen Co. it is probable that typical *frontalis* pushes farthest north, perhaps even entering Modoc Co. I have not seen birds from the Siskiyou Mts. proper, but they are almost certainly *carbonacea*, which with equal certainty can be said of the form inhabiting the western slope of the Cascades of Oregon. Ranging down the east slope this form intergrades through the Maury and Blue Mountain region with *annectens*. Tho the Fort Klamath bird shows some tendencies in the direction of *annectens*, I do not believe the form is the result of the intergradation of *frontalis* and *annectens* as has been suggested to me. The position of the Fort would indicate stock from the Cascade Range which adjoins the Willamette Valley. Any *annectens* blood is likely to be simply an infusion from the Blue Mts. via the east slope of the Cascades, *frontalis* being altogether out of the proposition. With these limitations the map represents in a general way our present knowledge of the distribution of the four essentially coast races.

The following are the differential color characters of our western *Cyanocittæ*, exclusive of Mexican forms.

SYNOPSIS OF  
WESTERN JAYS.

a. No white spot over eye.

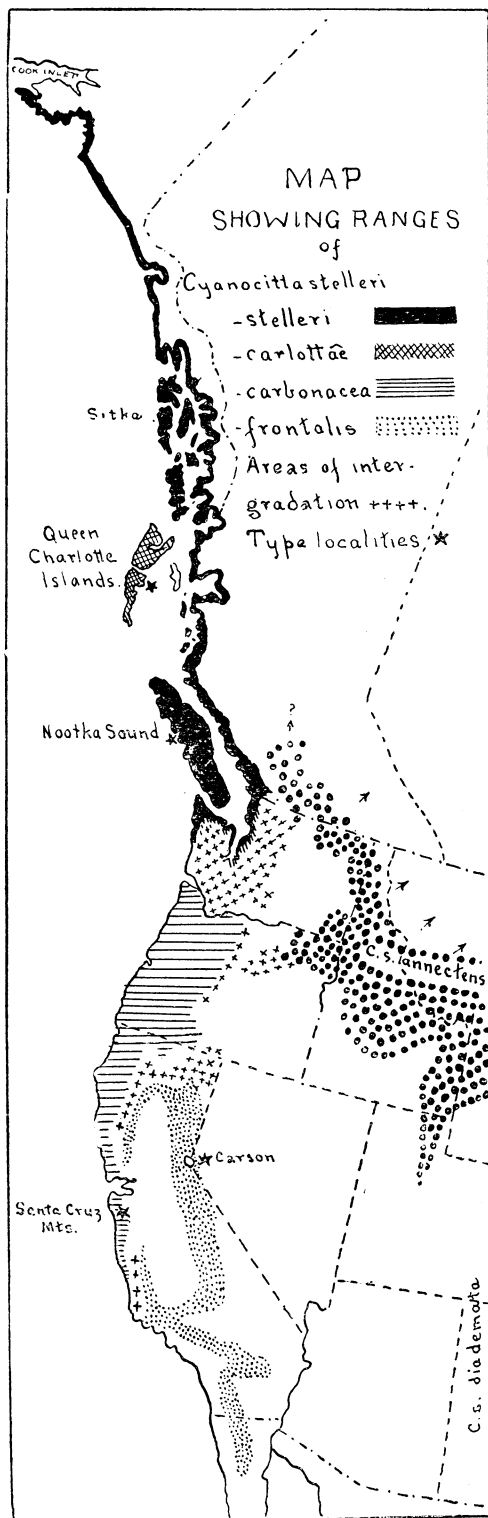
b. Bird larger (wing 152, tail 145) and bill heavier; head and back warm black; abdomen between Berlin blue and French blue; wings tending toward hyacinth blue. Queen Charlotte Is., B. C. *Cyanocitta stelleri carlottæ* Osgood.

bb. Bird smaller (w. 147, t. 134) and a trifle lighter, the blues of abdomen tending more to 'greenish' shades (Antwerp series.)

c. Back and head warm slate black; frontal streaks much reduced; abdomen Antwerp-verditer blue, darkened by gray cast from breast; wings Berlin blue. Coast, from Cook Inlet to Vancouver Id., and northern Washington. *Cyanocitta stelleri stelleri*. (Gmelin).

cc. Abdomen clear cerulean-Antwerp blue, not darkened by extension of tint of head.

d. Whole bird darker; frontal blue spots restricted; head darker than back; back warm slate gray. Coast of Cali-



fornia, Monterey County north to Oregon; Oregon west of Cascade Range, including east slope of Cascades *Cyanocitta stelleri carbonacea* Grinnell.

**dd.** Whole bird paler; back mouse gray; frontal spots conspicuous and extended often tinging whole of relatively long crest; wings and tail lighter; grays with decided brownish cast. Sierra Nevada, from mountains at head of Sacramento Valley, Lassen Peak and northern Lassen Co.; interior-most coast ranges, and mountains of southern California and northern Lower California. *Cyanocitta stelleri frontalis* Ridgway.

**aa.** White spot over eye; frontal streaks whitish.

**b.** White spot often small and inconspicuous; back slate, often with bluish tinge; breast and abdomen dark China blue; darkest on chest. Interior, British Columbia and northern Rocky Mt. region; Montana, Idaho, eastern Washington, eastern Oregon, south to Wasatch Mts. *Cyanocitta stelleri annectens* (Baird.)

**bb.** White spot very conspicuous; white frontal streaks conspicuous, shading off to bluish; back drab gray or mouse gray; head abruptly black; abdomen pale cerulean blue. Southern Rocky Mt. region from southern Wyoming to northern Mexico, west to Uintah Mts., Utah and high mountains of Arizona. *Cyanocitta stelleri diademata* (Bonaparte).

The following localities have yielded typical *stelleri*. ALASKA: Yakutat 4, Seldovia 4, Port Graham, 4, Security Bay 1, Prince William Sound 1, Virgin Bay 1, Howkan 2, "Russian America" 2, Sitka 18; BRITISH COLUMBIA: New Westminster 1, Fort Simpson 2, Promise Island 1, Hastings 1, Lund 1, Clinton (migrant?) 1, Vancouver Id. 11; total 55.

*Cyanocitta stelleri carbonacea* has been found at the following localities: OREGON: Wilson R., Tillamook Co. 1, Tillamook 1, Columbia R. 2, Beaverton 2, Salem 2, Oak Grove 1 (and 1 intermediate with *annectens*), Fort Klamath 8 (and 1 specimen close to *annectens*, migrant?). CALIFORNIA: Pacific Grove, Monterey Co. 2, Monterey 2, Santa Cruz 3, Palo Alto 4, Santa Cruz Mts. 2, San Francisco 1, Marin County 1, Nicasio 1, Humboldt Bay 3, Weaverville 1, Bully Choop Mts., Trinity Co. 1 (intermediate with *frontalis*), Carberry, Shasta Co. 1 (intermediate), Mt. Shasta 1 (not typical), Camp Bidwell 1 (? young); total 41. The following localities have yielded intermediates between *stelleri* and *carbonacea*, close to *stelleri*. BRITISH COLUMBIA: Agassiz 1 (individual), Victoria 1 (individual); WASHINGTON: Marcus 1, Ft. Steilacoom 1, Seattle 1, Puyallup 1, Neah Bay 6; total 12.

I have examined specimens of *Cyanocitta stelleri frontalis* from the following localities. NEVADA: Carson (type loc.). CALIFORNIA: Baird, Shasta Co., Ft. Crook (not typical), Honey Lake, Big Trees, Mt. Whitney, Sequoia National Park, South Fork of Merced, Kernville, Walker Basin, Kern Lakes, Tejon Mts., Laguna San Diego Co., Pine Valley San Diego Co., Ventura Co. (intermediate with *carbonacea* but closer to *frontalis*), Los Alamos Santa Barbara Co. (intermediate, rather nearer *frontalis*), Mt. St. Helena. LOWER CALIFORNIA: Vallecitas, Valle Palmas, Guadalupe Canyon.

### The Monterey Fox Sparrow.

BY JOSEPH GRINNELL.

**D**URING two summers I have spent in the vicinity of Monterey special search has failed to reveal the presence of any form of *Passerella*. Transition and Boreal species a plenty throughout the breeding season render this region abruptly distinct from the surrounding Sonoran fauna. But the fox sparrow is conspicuous by its absence from the ranks of those northern coast species here present and with which it is wont to be found elsewhere. In this "Santa Cruz Faunal Area" we find siskins, *Cyanocittas*, hermit thrushes, winter wrens, juncos and others of the same category, all of which nest in this limited region. So I had expected to find *Passerella*, but for some reason *Passerella* has not found here a congenial breeding home.

But in winter, when birds drop from zone to zone, fox sparrows are spread